

Remarks/Arguments

Rejection of Claims 1, 2, 8, 9, and 11-13 under 35 U.S.C. §102(b)

The Examiner rejected Claims 1, 2, 8, 9, and 11-13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,687,052 (Wilson). Applicant respectfully traverses the rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 1

Wilson does not teach a modulator in the observation beam path

Claim 1 recites: "An apparatus for implementing phase-contrast or modulation-contrast observation on microscopes with the aid of a modulator arranged in each pupil plane in the *observation beam path* (emphasis added) and containing at least one layer modifying the phase or amplitude..." For example, Figure 1 of the instant application shows the modulator (7) between the specimen (5) and the intermediate image (9). The Examiner has cited the mask in Wilson and cited col. 3, lines 26-30 as support. Wilson teaches: "*Between the beam splitter 3 and the objective lens 4* (emphasis added) a mask 6 is provided across the main optical axis X of the microscopy apparatus such that a first surface of the mask 6a is illuminated by the first light source 1. The mask 6 is encoded with a predetermined pattern that modulates spatially in the plane of the mask the *light from the first light source 1* (emphasis added). The modulation may be intensity, phase or polarisation modulation." (col. 3, lines 22-30). **Wilson is teaching mask 6 modulating light in the illumination beam path, not a modulator in the observation beam path.**

Wilson further teaches that mask 6 acts as a decoder in the observation beam path: "The encoded light is then reflected by the object O back through the mask 6 to the beam splitter 3. As the reflected light returns through the mask 6, the light is decoded by the patterning of the mask." (col. 4, lines 42-45). Mask 6 acts as a filter in the observation beam path. Mask 6 does not modulate light in the observation beam path – it either passes it or blocks it. For example, if

light is modulated/polarized at a first angle in the illumination beam path, mask 6 will pass light in the observation beam path polarized at this first angle and block light polarized (for example, by reaction to a specimen) at another angle.

Wilson does not teach a stop

Claim 1 recites: “a stop arranged in the illumination beam path,” Wilson does not teach a stop in any part of his apparatus.

Wilson does not teach a tiltable modulator

Wilson teaches a mask that is tilted at a fixed angle, but is not tiltable: “The mask 6 is *mounted* (emphasis added) with its normal at a small angle, for example a few degrees, to the main optical axis X of the apparatus. The angle is sufficiently small that it has only a nominal effect to the final imaging of the mask pattern on the object. Where the patterning of the mask is fixed, preferably *the mask is mounted on an axle (not shown) for rotation about its normal* (emphasis added).” (col. 2, lines 57-63). The mask is installed at an angle, but Wilson is silent regarding tilting the mask once installed and once his system is in use. In fact, Wilson teaches against a tiltable mask, since Wilson explicitly teaches that the angle must be kept small to avoid too great an effect on the imaging – if the mask were tiltable, this would present the problem of undesirably increasing the angle of the mask during use. Further, Wilson teaches that the mask is rotatable about its normal – that is, an axis perpendicular to the face of the mask.

For all the reasons noted *supra*, Wilson does not anticipate Claim 1. Claims 2, 8, and 9, dependent from Claim 1, enjoy the same distinction with respect to the cited reference. Applicant courteously requests that the rejection be removed.

Claims 11-13

Claims 11-13 each recite a modulator in the observation beam path and a stop. Claims 11-13 were rejected using the same grounds as Claim 1. Since Claim 1 is novel with respect to Wilson, Claims 11-13 also are novel with respect to Wilson. Applicant courteously requests that the rejection be removed.

Rejection of Claims 3 and 10 under 35 U.S.C. §103(a)

The Examiner rejected Claims 3 and 10 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,687,052 (Wilson) in view of U.S. Patent No. 6,057,894 (Kobayashi). Applicant respectfully traverses the rejection.

Wilson does not teach all the elements of Claim 1, specifically a modulator in the observation beam path, a stop, and a tiltable modulator. Wilson does not suggest or motivate the preceding elements. Therefore, Claim 1 is patentable over Claim 1. Kobayashi teaches a liquid crystal display and does not cure the defects of Wilson with respect to Claim 1. Therefore, Claim 1 also is patentable over Wilson in view of Kobayashi. Claims 3 and 10, dependent from Claim 1, enjoy the same distinction from the cited references. Applicant courteously requests that the rejection be removed.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



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